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10/540,188	06/09/2006	Mun Yhung Jung	NAMNP0104US	1206

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EXAMINER

KRAUSE, ANDREW E

ART UNIT	PAPER NUMBER
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1794

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05/22/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/540,188	Applicant(s) JUNG ET AL.	
	Examiner ANDREW KRAUSE	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-8 and 10-17 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,4-8 and 10-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/13/09</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Listing of Claims

Claims 2, 3 and 9 are cancelled. New claim 17 has been added. Claims 1, 4-8, 10-17 are now pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-12** are rejected under 35 U.S.C. 102(b) as being anticipated by Willard (US 4,698,230).

3. **Regarding claim 1**, Willard discloses a process wherein an acid (citric or malic acid (Col. 3 lines 50-55)) is added to potato products (column 4, lines 3-21) in concentrations of 0.05-0.30% of the weight of the potato product (column 9, lines 60-65).

4. Potatoes contain asparagine. Subjecting the potatoes to the acid treatment will cause protonation of the nucleophilic α -amino group, converting it to a non-nucleophilic amine. Although Willard is silent as to the effect of this process on acrylamide formation, "[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old

composition patentably new to the discoverer." *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977).

5. The protonation step is carried out using a pH lowering agent, like citric or malic acid (column 3, lines 50-55) for the treatment of food ingredients (column 3 line 50-column 4 line 21).

6. Regarding the drop in pH of the treated food required by the claim, Willard discloses using organic acids as claimed, in concentrations as claimed, therefore the step of adding acid to potatoes in Willard results in a sufficient drop in pH relative to the intrinsic pH of the food prior to treatment.

7. **Regarding claims 4-6**, Willard discloses adding citric acid to potatoes prior to a heat treatment of frying (example 5).

8. **Regarding claim 7**, Willard discloses that the food is potatoes, which inherently contain amino acids.

9. **Regarding claim 8**, Willard discloses using potatoes, which are well known in the art to be carbohydrate foods.

10. **Regarding claim 10**, Willard discloses adding the pH lowering agent in concentrations between 0.05-0.30% of the weight of the potato product (column 9, lines 60-65).

11. **Regarding claim 11**, Willard discloses using the organic acids, citric acid or malic acid (column 9, lines 36-68).
12. **Regarding claim 12**, Willard discloses using citric or malic acid (column 9, lines 36-68).
13. **Regarding claim 17**, Willard discloses adding citric acid as the sole acidic component (Example 2, sample 2A).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

17. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Willard in view of Lozano (ES 2019044 Derwent Abstract)

18. **Regarding claim 13**, Willard discloses the method of claim 11, but fails to disclose using an inorganic acid.

19. However, Lozano discloses treating potato slices with an inorganic acid, such as phosphoric acid (Derwent abstract).

20. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method of Willard with the use of phosphoric acid as disclosed by Lozano for the frying of potatoes, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of the suitability for the intended use as a matter of obvious engineering choice. In re Leshin,

125 USPQ 416. The disclosure of Lozano specifically discloses the use of phosphoric acid with the treating of potatoes, therefore such a material and method of treating is known in the art.

21. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Willard in view of Slaybaugh (US #3,512,990).

22. Regarding claim 14, Willard discloses the method of claim 11, but fails to disclose using the salt of an inorganic acid.

23. However, Slaybaugh discloses that monosodium phosphate is an additive conventionally used in carbohydrate foods (column 1, line 55-65) to enhance the flavor of the food or to preserve the food.

24. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method of Willard with the use of salts of inorganic acids (such as monosodium phosphate) as disclosed by Slaybaugh. The use of monosodium phosphate as disclosed by Slaybaugh for the frying of potatoes is considered to be within the general skill of a worker in the art to select a known material on the basis of the suitability for the intended use as a matter of obvious engineering choice. In re Leshin, 125 USPQ 416. The disclosure of Slaybaugh specifically discloses the use of monosodium phosphate with the treating and frying of potatoes (Col. 1 lines 50-60),

therefore such a material and method of treating is known in the art of potato production.

25. Claim 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Willard in view of Cole (US #3,219,464).

26. Regarding claim 15, Willard discloses the method of claim 11, but fails to disclose using a buffer solution.

27. However, Cole discloses a method for processing potatoes wherein the potatoes are treated with a potassium phosphate buffer solution (Col. 2 lines 22-35 and Example 4).

28. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method of Willard with the use of a Potassium Phosphate buffer as disclosed by Cole. Cole discloses that it is well known in the art of producing edible potatoes to add a buffer of potassium phosphate to maintain pH control throughout the cooking process. (Col. 2 lines 22-35)

29. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Willard.

30. Regarding claim 16, Willard discloses the method of claim 11, but does not explicitly disclose using a fruit juice. However, Willard does disclose using citric acid, which is well known to be a component of juices such as lemon, orange, citron, and lime. Therefore it would have been obvious to one of ordinary skill in the art at the

time of the invention to combine the method of Willard with the use of lemon, orange, citron, or lime juice as a source of citric acid, since all elements were known at the time of the invention and could have been combined to yield predictable results to one of ordinary skill in the art at the time of the invention. (Col. 3 lines 50-55)

Response to Arguments

31. *Rejections under 35 USC § 102*

32. Applicant's arguments filed 2/13/09 have been fully considered but they are not persuasive.

33. In response to applicant's argument that the inventions have different objects, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. It is further noted that "[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999).

34. Regarding the argument that Willard is only applicable to potato based products, the process of Willard still is able to meet the claim, as the claims call for treating food

ingredients (claim 1), specifically carbohydrate foods (claim 7). Potatoes fit within both groups and thus meet the claim.

35. Regarding the argument that Willard adds additional components, while the instant application allows reduction in acrylamide by adding acid only, the claims recite the term "comprising", and thus the claimed method encompasses the use of additional components.

36. Regarding the argument that Willard calls for citric acid and malic acid, the present claim 11 calls for those acids to be used. Regarding the further argument that the object of their use differs, again, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

37. *Rejections under 35 USC § 103*

38. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

39. Regarding Lozano, while Lozano does not disclose all the features of the present claimed invention, Lozano is used as teaching reference, and therefore, it is not necessary for this

secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely using phosphoric acid as an acid to treat foodstuffs, and in combination with the primary reference, discloses the presently claimed invention.

40. Regarding Slaybaugh, it is argued that the object of Slaybaugh differs from that of the present invention. However, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Further, Slaybaugh is used as a teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely using monosodium phosphate as a food additive, and in combination with the primary reference, discloses the presently claimed invention. Regarding the argument that the additives are not essential to Slaybaugh, the disclosure of Slaybough discloses using additives such as monosodium phosphate, and provides motivation to add it to food product to enhance the flavor.

41. Regarding Cole, the arguments relate to the heat treatment disclosed in Cole. Cole is used as a teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179

USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981).

Rather this reference teaches a certain concept, namely a buffer system in food processing, and in combination with the primary reference, discloses the presently claimed invention.

42. Further a pH range with a lower limit of 6 would allow the intrinsic pH of a potato to be lowered by 0.2 units (from 6.2), and thus meet the claim limitations.

43. *New Claim 17*

44. Regarding new claim 17, it is argued that Willard requires additional ingredients. While Willard does disclose using multiple additives, the pH lowering agent disclosed consists essentially of citric acid (Example 2, trial 2A). One having ordinary skill in the art would recognize that the additional components, such as a bitter flavor, metallic flavor, and sugar component are not the pH lowering agent, and that the citric acid is the sole pH lowering agent.

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date

of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW KRAUSE whose telephone number is (571)270-7094. The examiner can normally be reached on 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571)272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ANDREW KRAUSE/
Examiner, Art Unit 1794

/KEITH D. HENDRICKS/
Supervisory Patent Examiner, Art Unit 1794